REMARKS:

1) After entry of the amended PCT claims submitted under PCT Article 19, this Preliminary Amendment merely further amends some claims to remove reference numbers. This editorial change does not involve new matter.

2) Favorable consideration and allowance of claims 1 to 36 are respectfully requested.

Respectfully submitted,

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AMENDED CLAIMS



[received by the International Bureau on March 15, 2005 (15.03.05);
original claims 1, 5 and 8 amended; remaining claims unchanged (5 pages)]

1. (Amended) A diamond tool fabricated with a single crystal diamond artificially synthesized under high pressure in a temperature difference method, characterized in that said diamond has a crystal containing an impurity in an amount of at most 3 ppm and the tool has a blade with an end having a plane orientation being a (110) plane.

2. The diamond tool according to claim 1, wherein said crystal contains said impurity in an amount of at most 0.1 ppm.

3. The diamond tool according to claim 1, being one of an ultra high precision cutting tool, a microtome knife, a diamond knife, a diamond stylus, a line drawing die, and a dresser.

4. The diamond tool according to claim 1, wherein a titanium containing, activated brazing material (22) is employed to attach said diamond to a main body of the tool.

5. (Amended) A diamond tool fabricated with a single crystal diamond artificially synthesized under high pressure in a temperature difference method, characterized in that said diamond has a crystal containing nitrogen in an amount of at most 3 ppm and the tool has a blade with an end having a plane orientation being a (110) plane and said crystal also contains nickel.

6. The diamond tool according to claim 5, wherein said nickel is contained in an amount of at least 0.01 ppm and at most 10 ppm.

7. The diamond tool according to claim 5, wherein a titanium containing, activated brazing material (22) is employed to attach said diamond to a main body of the

tool.

8. (Amended) A diamond tool fabricated with a single crystal diamond artificially synthesized under high pressure in a temperature difference method, characterized in that said diamond has a crystal containing nitrogen in an amount of at most 3 ppm and the tool has a blade with an end having a plane orientation being a (110) plane and said crystal also contains boron and nickel.

9. The diamond tool according to claim 8, wherein said boron is contained in an amount of at least 0.01 ppm and at most 300 ppm.

10. The diamond tool according to claim 8, wherein said nickel is contained in an amount of at least 0.01 ppm and at most 10 ppm.

11. The diamond tool according to claim 8, wherein a titanium containing, activated brazing material (22) is employed to attach said diamond to a main body of the tool.

12. A synthetic single crystal diamond synthesized under ultra high pressure at high temperature in a temperature difference method, characterized by having a crystal containing nickel as a substitutional atom.

13. The synthetic single crystal diamond according to claim 12, wherein said nickel is contained in an amount of at least 0.01 ppm and at most 10 ppm.

14. The synthetic single crystal diamond according to claim 12, containing nitrogen in an amount of at least 0.01 ppm and at most 3 ppm.

15. The synthetic single crystal diamond according to claim 12, used for a tool.

16. The synthetic single crystal diamond according to claim 15, wherein a titanium containing, activated brazing material (22) is employed to attach the synthetic single crystal diamond to an end (23) of said tool.

17. The synthetic single crystal diamond according to claim 12, used for jewelry.

18. A diamond tool comprising the synthetic single crystal diamond of claim 12.

19. Diamond jewelry comprising the synthetic single crystal diamond of claim 12.

20. A method of synthesizing a single crystal diamond under ultra high pressure at high temperature in a temperature difference method, characterized by employing a solvent formed of at least one of iron and cobalt, at least 36% by weight of nickel, at least 1% by weight and at most 2% by weight of titanium, and at least 3% by weight and at most 5.5% by weight of graphite.

21. The method according to claim 20, wherein a seed face of a seed crystal (13) is a (100) plane of a crystal of diamond.

22. The method according to claim 20, wherein said single crystal diamond is synthesized at 1380 ± 25°C.

23. The method according to claim 20, wherein said single crystal diamond is synthesized at a rate of at least 3.9 mg/hr and at most 4.7 mg/hr.

24. A synthetic single crystal diamond synthesized under ultra high pressure at high temperature in a temperature difference method, characterized by having a crystal containing boron and nickel as substitutional atoms.

25. The synthetic single crystal diamond according to claim 24, wherein said boron is contained in an amount of at least 1 ppm and at most 300 ppm.

26. The synthetic single crystal diamond according to claim 24, wherein said nickel is contained in an amount of at least 0.01 ppm and at most 10 ppm.

27. The synthetic single crystal diamond according to claim 24, containing nitrogen in an amount of at most 3 ppm.

28. The synthetic single crystal diamond according to claim 24, used for a tool.

29. The synthetic single crystal diamond according to claim 28, wherein a titanium containing, activated brazing material (22) is employed to attach the synthetic single crystal diamond to an end (23) of said tool.

30. The synthetic single crystal diamond according to claim 24, used for jewelry.

31. A diamond tool comprising the synthetic single crystal diamond of claim 24.

32. Diamond jewelry comprising the synthetic single crystal diamond of claim 24.

33. A method of synthesizing a single crystal diamond under ultra high pressure at high temperature in a temperature difference method, characterized by employing a solvent formed of at least one of iron and cobalt, at least 36% by weight of nickel, at least 1% by weight and at most 2% by weight of titanium, at least 0.1% by weight and at most 0.2% by weight of boron and at least 3% by weight and at most 5.5% by weight of graphite.

34. The method according to claim 33, wherein a seed face of a seed crystal (13) is a (100) plane of a crystal of diamond.

35. The method according to claim 33, wherein said single crystal diamond is synthesized at 1350 ± 30°C.

36. The method according to claim 33, wherein said single crystal diamond is synthesized at a rate of at least 3.1 mg/hr and at most 3.8 mg/hr.